

## **Publications of Professor Haridas Banerjee**

### **Publications in Journals**

- [1] Polarisation effect in elastic scattering of Dirac electrons by screened Coulomb field, *Acta Physica Austriaca*, 12 (1958) 70
- [2] Polarisation effects in integrated Bremsstrahlung cross section, *Phys. Rev.* 111 (1958) 352
- [3] On Sommerfeld's approximation in high energy photo-electric effects etc, *Nuovo Cim.* 10 (1958) 863
- [4] Scattering of a longitudinally polarised electron beam by uniform magnetic field, *Proc. Nat. Ins. Sc.(India)* 24A (1958) 279
- [5] Polarisation phenomena in photoelectric effect, *Nuovo Cim.* 11 (1959) 220
- [6] Circular polarisation of Bremsstrahlung etc., *Proc. Nat. Ins. Sc.(India)* 26A (1960) 502
- [7] On a composite model of pion, *Helv. Phys. Acta* 34 (1961) 501
- [8] Leptonic decay of hyperons (with P. K. Kabir), *Proc. Nat. Ins. Sc. (India)* 28A (1962) 277
- [9] The role of  $\pi\gamma_5$ -gauge invariance etc. *Nuovo Cim.* 23 (1962) 587
- [10] Remark on the conservation of the axial vector current, *Nuovo Cim.* 23 (1962) 1168
- [11] Remarks on the analytic continuation of partial wave amplitude, *Phys. Rev.* 131 (1963) 2810
- [12] Restrictions on coupling constants in a bootstrap model of vector mesons (with V.S. Mathur), *Nuovo Cim.* 35 (1965) 651
- [13] Analytic continuation of partial wave amplitude in complex angular momentum plane (with G.C. Joshi), *Phys. Rev.* 137B (1965) 1576
- [14] Inelastic unitarity contribution to  $S_{11}$  pion-nucleon scattering length (with S.N. Biswas and R.P. Saxena), *Phys. Rev.* 138B (1965) 1260
- [15] Asymptotic behaviour of forward scattering amplitude, *Phys. Rev.* 149B (1965) 989
- [16] Low energy pion nucleon scattering (with B. Dutta-Roy), *Phys. Lett.* 24B (1967) 413
- [17] On the question of adequacy of the N/D method etc., *Nuovo Cim.* 50 (1967) 992
- [18] Dispersion theoretic derivation of PCAC consistency condition and rho-dominance in pion-nucleon scattering (with S. Mallik), *Nuovo Cim. Lett.* 1 (1969) 87
- [19] Universality of rho-meson coupling and sum rules for pion scattering on hadrons (with B. Dutta-Roy and S. Mallik), *Nuovo Cim. Lett.* 1 (1969) 436
- [20] Rho-dominance and a new family of sum rules for pion-baryon scattering (with S. Mallik and B. Dutta-Roy), *nuovo Cim.* 66A (1970) 475
- [21] Rho-dominance sum rules for KN-scattering (with S. Baba Pundari and B. Dutta-Roy), *Nucl. Phys.* B15 (1970) 221

- [22] Dynamical approach to higher symmetries (with B. Dutta-Roy), Phys. Rev. 2D (1970) 2414
- [23] The  $Kl_3$  puzzle and current algebra, Phys. Lett. 32B (1970) 691
- [24] Question of the validity of eikonal approximation (with S. Mallik), Phys. Rev. 9D (1974) 956
- [25] A multi-Regge model for self-consistent Pomeron with unit intercept (with U. Basu and S. Mallik), Phys. Lett. 52B (1974) 81
- [26] Corrections to Glauber multiple scattering series (with B. Dutta-Roy and S.K. Sharma), Ann. Phys. 95 (1975) 127
- [27] Overlap function and Regge cut in a self-consistent multi-Regge model (with U. Basu and S. Mallik), Nuovo Cim. 38A (1977) 455
- [28] The role of eikonal approximation in the infrared domain (with S. Mallik and S.K. Sharma), Phys. Lett. 66B (1977) 239
- [29] Infrared and high energy fixed angle domains of scattering etc. (with S.K. Sharma) Ann. Phys. 117 (1979) 447
- [30] Transverse momentum cut-off hypothesis in high energy scattering (with M. Sengupta), Phys. Lett. 93B (1980) 277
- [31] Annihilation of  $e^+e^-$  into hadrons in a hydrodynamic model (with A. Biswas and T. De), Phys. Lett. 100B (1981) 342
- [32] A hydrodynamic model for hadron production in  $e^+e^-$  annihilation (with A. Biswas and T. De), Zeits. für Physik, C12 (1982) 111
- [33] Failure of Block-Nordseick mechanism in perturbative QCD (with A. Chatterjee and M. Sengupta), Phys. Lett. 124B (1983) 105
- [34] A two-component model for hadron production in high energy pp-collisions (with D. Syam and T. De), Nuovo Cim. 89A (1985) 353
- [35] Currents and their anomalies in chiral gauge theories - dynamical approach in higher dimensions (with R. Banerjee), Phys. Lett. 174B (1986) 313
- [36] Covariant and consistent anomalies in even dimensional chiral gauge theories (with R. Banerjee and P. Mitra), Zeits. für Physik, C32 (1986) 445
- [37] Invariance of fermion determinant under large gauge transformations (with G. Bhattacharya and J.S. Bhattacharya), Phys. Lett. 189B (1987) 431
- [38] Identical phase space constraint structure of three-dimensional QED with or without Chern-Simons term (with M. Sengupta and J.S. Bhattacharya), Phys. Rev. D35 (1987) 3270
- [39] A non-scaling hydrodynamic model for relativistic heavy ion collisions (with A. Biswas and D. Syam), J. Phys. G14 (1988) 309
- [40] Phase factors, point-splitting regularisation and chiral anomalies (with R. Banerjee), Zeits. für Physik C39 (1988) 89
- [41] Induced fermionic charge in background gauge theories in odd space-time dimensions (G. Bhattacharya and J.S. Bhattacharya), Phys. Rev. D37 (1988) 1706
- [42] Comment on functional integral for Weyl fermions and the effective action (with R. Banerjee), Phys. Rev. D39 (1989) 1254
- [43] Gauge theory of SU(2) Weyl fermion: is it consistent ? (with G. Bhattacharya and R. Banerjee), Zeits. für Physik, C45 (1989) 253
- [44] Electric dipole moment of the neutron in the standard model from dynamical breaking of chiral symmetry (with D. Chatterjee and R. Banerjee, Mod. Phys. Lett. A6 (1991) 1095

- [45] Dirac fermion in Euclidean metric and the U(1) and strong CP problems (with P. Mitra and D. Chatterjee), *Zeits. für Physik C62* (1994) 511

### **Invited talks and papers in conference proceedings**

- [46] Complex angular momentum plane, *Proc. X Symposium on Cosmic Rays, Particle Physics and Astrophysics, Aligarh, 1967*, published by DAE, India, p.493
- [47] Hadronic interactions - Theoretical developments, *Proc. first High Energy Physics Symp., Bombay, 1972*, published by DAE, India, p. 255
- [48] An introduction to Regge approach to high energy phenomena, lecture series, *Gröningen University Report, 1975, Gröningen, Holland*
- [49] Relativistic eikonal approximation, *Proc. Int. Conf. on frontiers of Physics, Delhi, 1978*, Eds. F.C. Auluck et al (MacMillan and Co.), p.253
- [50] Asymptotic behaviour in field theory, *Proc. IV High Energy Physics Symp., Jaipur, 1978*, pub. by DAE, India, p.327
- [51]  $e^+e^-$  annihilation in Landau's hydroynamical model, *Proc. X Int. Symp. on Multiparticle Dynamics, Goa, 1979*, Eds. P. Malhotra et. al. (TIFR, Bombay), p.541
- [52] Chiral anomalies revisited, *Proc. Nat. Seminar on sixty years of Quantum Mechanics, Visva-Bharati, 1985*, Ed. A. Ray (Visva-Bharati), p.75
- [53] Anomalies in Quantum Field Theory, *Proc. VII High Energy Physics Symp., Calcutta, 1986*, Eds. M.K. Pal and G. Bhattacharya (Saha Institute, Calcutta), p.89
- [54] The Lesson of Quantum Mechanics, *Science Reporter*, 24 (1987) 646
- [55] CP-violation induced by dynamical breaking of chiral symmetry in the standard model, *Proc. Multiparticle Dynamics and Festschrift for Leon van Hove, La Thuile, Italy, 1989*, Eds. A. Giovannini and W. Kittel, (World Scientific, 1990), p.611
- [56] S-Matrix in Gauge Theory: A path integral approach, *Dirac and Feynman*, Eds. R. Dutt an A. Ray (Wiley Eastern, 1993), p.189
- [57] CP-violation in standard model - a second option, *Proc. Topical Meeting on CP violation, Calcutta, 1990* (Wiley Eastern)
- [58] Dirac fermion in Euclidean metric and Fermion path integral, *Proc. Int. Symp. on Quantum Field Theory and Statistical Mechanics, Calcutta, 1992*, (Wiley Eastern)

### **Monograph**

- [59] *Gauge Field Quantisation, Renormalisation Theory and Anomalies* (with S.D. Joglekar and S. Rai Chowdhury), Wiley Eastern, to be published.